

Upper San Joaquin River Basin Storage Investigation Workshop Summary - *DRAFT* Workshop # 3, October 18, 2002

Introduction

This summary describes Workshop # 3 of the Upper San Joaquin River Basin Storage Investigation (Investigation). Charles Gardiner, the workshop facilitator, opened the meeting by discussing the agenda, objectives, and participation principles for the workshop. Agenda topics included:

- Investigation Purpose and Process;
- Surface Storage Option Screening;
- Conjunctive Management and
- Modeling Modifications and Preliminary Results.

Investigation Purpose and Process

Jason Phillips, Reclamation's project manager, provided an overview of the study approach for the Investigation, including Phases I (Appraisal Study) and II (Feasibility Study and EIS/EIR). He reiterated the CALFED objectives for this study, and noted the Phase I investigation purpose statement:

“Determine if CALFED agencies should pursue a water storage feasibility study that could meet the CALFED goals for Upper San Joaquin River Basin Storage and assist in solving other regional problems.”

The project team expects to release an in-progress Phase I Report in mid December. Comments on this report will be encouraged during Workshop #4. The Draft of this report will be provided in mid 2003.

Mr. Phillips presented the formal review process to be used during Phase I (see handout).^{*} The project team will distribute draft materials and will provide opportunities to discuss and comment on the draft materials at workshops. After discussion at the workshops, participants may submit additional comments. The Investigation Team will review and consider comments and will either incorporate changes to address the comments or provide the rationale for an alternate approach. These revisions and responses will be posted on the USJRBSI website.

A handout provided at the workshop depicts an update of the planning approach flowchart for Phase I.^{*} Mr. Phillips described the current status of the analysis. The Study Team has established preliminary baseline conditions for the modeling analysis, and conducted an initial review of storage options that may be carried forward for further evaluation.

^{*} Handouts and presentation materials from Workshop #3 are available on the project website: www.mp.usbr.gov/scca0/storage/

Participants' comments and questions (*here after presented in italics*) about the Investigation purpose and process included:

The CALFED goals include improving water supply reliability. This project's goals should include improving water supply in the San Joaquin Basin. The goals listed are those specifically developed by CALFED for this Investigation. These goals are intended to provide an initial direction, without limiting the project objectives to this specific set of goals.

Surface Storage Option Screening

Bill Swanson presented the draft results of the Investigation's initial surface storage option screening. The Study Team will review surface storage options through a three-step screening for: 1) constructability, 2) operational performance, and 3) cost and acceptability. This workshop included draft results from the first step. The initial step encompassed a literature review of previous storage option studies, preliminary field visits, and the identification of engineering features and environmental issues of concern. A handout* summarized the results of the initial screening and listed planning level data for the storage options, such as size of option, water sources, and additional storage capacity provided.

The Team is recommending that the following storage options be eliminated from further analysis due to engineering or environmental constraints: Montgomery, Big Dry Creek (medium – long term storage), Rogers Crossing, Dinkey Creek, and Hungry Hollow Reservoir. The team will not conduct operational evaluations of these options.

Surface storage options to be carried forward are: Friant Dam Raise, Temperance Flat Reservoir, Fine Gold Creek Reservoir, Kerckhoff Reservoir Enlargement, Mammoth Pool Raise, Pine Flat Dam, Mill Creek Reservoir, Dry Creek Reservoir, and Yokohl Creek Reservoir. The Study Team will evaluate these options further to determine their operational performance.

Participants' comments and questions about the surface storage option screening included:

- *How are options going to be evaluated?* Each option will be evaluated independently, similarly to how the team is evaluating the Friant Raise.
- *The environmental review must also address the environmental benefits.* As the evaluation proceeds, the Study Team will evaluate the cost and benefits for each site. Quantifying specific benefits for flood control, water quality, and environmental quality will be accomplished in Phase II.

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- *How did you develop the initial list of the options to evaluate?* The initial set of options came from a literature review and from other storage investigations. Sites that are planned for construction, or that are under construction, were dropped from the list.
- *Which agencies could serve as the lead for the EIS?* The Bureau will be the lead federal agency.
- *How are you supporting and documenting conclusions, specifically public acceptability? Considering public opposition as a screening factor at this stage of the investigation could set an unacceptable precedent for the screening process.* This review will be disclosed in the formal document. Currently, acceptability is being evaluated by considering specific impacts an option may cause, and also whether the option is implementable from a legal standpoint.
- *A previous evaluation on raising Dry Creek Dam revealed that affects to the alluvial Sycamore Woodland would be a significant impact, which stopped further investigation.* The team apparently overlooked this and will look into it in more detail and report back during workshop #4.
- *How many houses would need to be moved for the big expansion of Millerton Lake?* The group estimated it to be in the hundreds, but a house count has not been completed yet.
- *What are the habitat needs of the landlocked Shad in Millerton Lake and the Upper San Joaquin River?* The team has not researched the habitat needs of specific species yet.
- *How was Friant surcharge treated in the review for potential Temperance Flat and Fine Gold reservoirs?* Operational and design considerations surrounding this issue will be evaluated in further detail as the analysis progresses.
- *The stretch of river between Temperance Flat and Fine Gold Creek is sensitive to both fishery and riparian habitat issues. The need for protection of this area has been expressed by several state and local agencies.* This will continue to be investigated in further detail.
- *Did the team consider a tunnel from the upper San Joaquin River to a potential Fine Gold reservoir?* Yes, but it did not appear feasible.
- *The table should include the 250 TAF option for Fine Gold.*
- *There is a historic dude ranch (Wonder Valley) that would be inundated by a potential Mill Creek reservoir.* The team is aware of this land use/recreation/economic impact.
- *How does CALFED differentiate between water use efficiency and conservation?*

Conjunctive Management

Jason Phillips and Eric Hong provided a brief presentation on DWR's conjunctive management work and its integration with the Investigation. CALFED includes the following storage elements: 1) surface water projects, 2) conjunctive management of surface and groundwater, and 3) groundwater management. Phase I of the Investigation will conclude with a recommendation to continue or discontinue planning for surface storage in the upper San Joaquin river basin – a recommendation that will be supported by whether surface storage can facilitate conjunctive management, among other factors. If the investigation carries forward, Phase II will address how additional surface storage could be integrated with conjunctive management.

CALFED's goal is to increase statewide water supply reliability by 500 – 1,000 thousand acre-feet (TAF) through conjunctive management. CALFED's Conjunctive Water Management Program (Program) emphasizes the participation of local stakeholders and encourages local management. The core activities specifically concentrate on assisting local agencies with basin-wide planning, monitoring, and sustainable local water resource management. The Program consists of three phases. The first phase focuses on accessing groundwater basin site characteristics, developing basin management objectives, evaluating conjunctive use options, and performing initial analyses. Feasibility and environmental review studies, in addition to pilot and demonstration projects, will be conducted under the second phase. The final phase of the Program involves the implementation of the final projects.

The conjunctive management program is to be funded through a variety of partnership funding opportunities. A handout* showed the locations of AB303 and Proposition 13 funding awards in the 2000/2001 and 2001/2002 water years.

Participants discussed the amount of water that would be available through both surface water storage and conjunctive use management. Two of the main issues that will need to be addressed are: 1) what role the conjunctive use Program will have in alleviating the overdraft in the San Joaquin basin and 2) how the USJRBSI will enhance the benefits provided by the Conjunctive Water Management Program. Both of these issues would be investigated in a USJRBSI Phase II analysis.

Participants' comments and questions about conjunctive management included:

- *Is the Investigation's surface storage goal of 250 – 700 TAF independent of the Conjunctive Water Management Program's storage goal of 500 – 1,000 TAF? Yes, these storage quantities are goals that are designated to each Program independently. However, these programs are not intended to compete against each other, but to work together, mutually enhancing storage benefits for each program.*

* Handouts and presentation materials from Workshop #3 are available on the project website: www.mp.usbr.gov/scca0/storage/

- *What types of conjunctive use funding will be available following this year? Proposition 50 would provide additional funding, pending voter approval. However, currently, the Program is experiencing a shortage of funding.*
- *The only excess water that would be available for recharge is flood releases. Would conjunctive use projects be recharged with flood releases, or from reallocated sources? The next CALFED Water Supply Subcommittee meeting will address this issue.*
- *There is sufficient negative public perception regarding conjunctive use that funding projects may be difficult.*
- *In contrast to the surface storage program, the Conjunctive Use Program does not have a set of clearly defined objectives. This could make it more difficult to integrate the two programs. A coordinated plan needs to be designed to meet clearly defined objectives.*
- *The first priority of the Conjunctive Management Program should be to meet the local needs and the second, to meet regional needs. The main challenge is going to be how the Programs coordinate efforts to optimize surface supply reliability and other benefits without providing a “surplus” of water that is growth inducing. There needs to be a connection between the local and regional water supply strategies.*
- *In order to enhance water supply reliability, the total amount of available water needed to meet demand needs to be increased. Otherwise, water is simply being taken away from one-group of users to meet the needs of other users.*
- *There is a significant difference between creating mandates and using incentive measures to create investment opportunities for conjunctive use that enhance surface storage benefits. The Conjunctive Management Program should consider incentives as a tool.*
- *Local agencies recognize the water shortage first hand and many feel that the construction of additional dams does not alleviate the water shortage.*
- *Special interests create additional political hurdles in attempting to find a resolution to the water shortage. Tolerance towards the variety of water demands is going to be a key component in reaching a resolution.*

Mr. Phillips identified two possible approaches for incorporating the conjunctive use element into the model. The magnitude of conjunctive use could be estimated based on current projections, or potential conjunctive use sites could be incorporated into the model directly. Mr. Phillips asked the participants to comment on the possible approaches. Participants noted that a general estimate would be the most favorable approach for these initial planning stages. The actual construction of the storage option would not occur until a much later date, and by that time, more site-specific conjunctive use information might be available.

- *Is the Study Team using the Natural Heritage Institute's study on conjunctive use? That study has not been incorporated into the model yet.*
- *Conveyance restrictions may be one of the major limiting factors for the potential of conjunctive use.*
- *It is premature to evaluate conjunctive use at this planning stage. Detailed analysis of conjunctive use will be reserved for the second phase of analysis, if the Investigation carries forward.*

Modeling Modifications and Preliminary Results

Walter Bourez provided the preliminary results from CALSIM model simulations of the Friant system. Results demonstrate that the model mimics historical operations well and that the model will serve as an effective tool for establishing a “benchmark” for comparative analysis.

The model simulates the amount of water supply volume available for project delivery. Preliminary analysis is based on monthly time steps from March through June. Factors that are directly accounted for in simulating the water supply volume available for delivery include the storage at the beginning of the month, inflow into the reservoir, canal loss, minimum river releases, evaporation estimates, and carryover storage at the end of September. Simulations are updated monthly from March through June. The model also accounts for the allocation of Class I, Class II, and 215 water. Patterns of delivery are based on historical deliveries from 1982-1997. The participants expressed general agreement that the model will provide an acceptable tool for continued analysis.

Young-Hsin Sun presented the general modeling process and initial assumptions that are to be incorporated into the alternative analysis. This process is still in its initial stages of development. The modeling team is currently incorporating the recently released, updated version of the CALSIM model. Refinements to the model, including the incorporation of year type and other variables, will be an ongoing process.

Further details of this discussion are provided on the presentation material posted on the USJRBSI website. Specific questions and additional details regarding the features of the model may be directed to Jason Phillips at 916-578-5070.

Participants' comments and questions about the modeling update and preliminary results included:

- *The Friant/NRDC study should be available soon and will provide valuable information, including estimates of enhanced conjunctive use benefits.*

- *The addition of a new reservoir could alter current flood control operations. Once a baseline is established, the model will be used to access different operation scenarios. Modeled future flood protection will not be below existing conditions.*
- *A monthly time step might not be adequate for quantifying flood control benefits. A monthly time step is only being used for Phase I. A more detailed model, using either daily or hourly time steps will be used during Phase II. .*
- *Please furnish a summary of the modeling assumptions and how they affect results, to provide participants a better understanding of the implications.*
- *When will detailed CALSIM modeling results be available to the public? DWR released general CALSIM results recently on the DWR website. These results may be reviewed directly from the website without the modeling software. Documentation specific to the USJRBSI modeling will be available in November.*
- *Does maintaining long term average deliveries mean maintaining deliveries in each of the categories (Class 1, Class 2 and 215)? Initial model simulations presented at the Workshop were based on maintaining total long-term average annual water deliveries. No attempt was made to maintain long-term annual average deliveries for each category.*
- *Deliveries for each year type would be a better benchmark than long-term average deliveries. After determining delivery quantities, you need to model the pattern by year type. The next modeling steps will include a constraint to maintain average annual deliveries by water year type.*
- *The modeling will need to demonstrate how to relieve the burden on New Melones floodwaters. The maximum captured floodwater will be a primary financial justification for the project. Modeling results will be reviewed to identify how other project operations would be affected. This will include a review of the effects that higher flows and/or higher water quality in the San Joaquin River would affect New Melones operations.*

Next Steps

The next workshop will be held in late January 2003 at a (to be determined) location in Fresno. Stakeholders requested that the workshop be scheduled on a date that does not conflict with the annual CVP water users meeting. The workshop will include discussions of functional equivalence and continuation criteria, and will present preliminary results from additional single purpose analyses.

**Workshop
Participant**

Organization

Tom Boardman	San Luis and Delta Mendota Water Authority
Gary Bobker	The Bay Institute
John Brooks	U.S. Fish and Wildlife Service
Steve Burke	Protect Our Water
Mark Christopher	Friends of the River
Jim Cobb	Resource Management Coalition
Alex Hildebrand	South Delta Water Agency
Randy Houk	Columbia Canal Company
Ron Jacobsma	Friant Water User Association
Paula Landis	Department of Water Resources
Bill Luce	Bureau of Reclamation
Orvil McKinnis	Westlands Water District
Dave Orth	Kings River Conservation District
Steve Ottemoeller	Madera Irrigation District
Stephen Roberts	Department of Water Resources
Sharon Weaver	San Joaquin River Parkway and Conservation Trust

Study Team Members Present

Reclamation	Jason Phillips Marian Echeverría Claire Hsu Chuck Howard
DWR	Richard Hayes Waiman Yip Eric Hong
PAM	Charles Gardiner
MWH	Bill Swanson Yung-Hsin Sun Jim Herbert Stephen Osgood
CDM	Coral Cavanagh Courtney Black Carrie Metzger

MBK

Walt Bourez

SKS

Russ Grimes

Daniel B. Steiner,
Consulting Engineer

Dan Steiner